

Environmental Sampling for *Legionella*

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Legionella Webinar #2

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Frequent Destinations

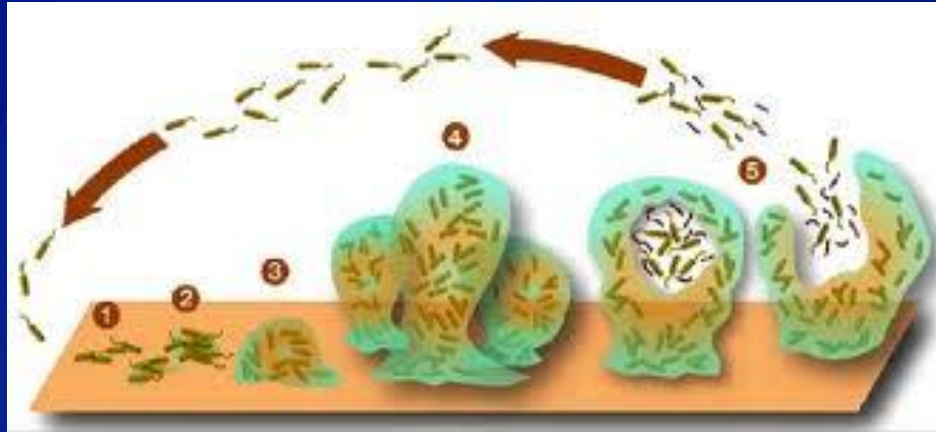
- ❑ Hotels and resorts
- ❑ Hospitals, nursing homes, and other chronic care facilities
- ❑ Industrial or manufacturing sites
- ❑ Cruise Ships
- ❑ “Other”



Samples to Collect

Bulk water

Biofilm



Top Ten Items for Sampling

- 1. Sterile plastic 1 L bottles**
- 2. Sodium thiosulfate – 1 N solution**
- 3. Pipettes and bulbs**
- 4. Dacron-tipped swabs**
- 5. Sterile plastic screw top tubes**
- 6. pH test kit**
- 7. Chlorine test kit**
- 8. Thermometer**
- 9. Labels**
- 10. Pads and pens to document samples**

Before you go

- ❑ **Review Environmental Assessment for sites to sample**
- ❑ **Identify sampling team**
- ❑ **Organize background information**
- ❑ **Determine lab capacity**
- ❑ **Alert property management**
- ❑ **Gather necessary contact information**
- ❑ **Work out transportation logistics**



The Staging Meeting

Participants should include:

Property manager

Maintenance technician

Local health authority

- ❑ **Make an action plan for sampling**
- ❑ **The first remediation discussion**
- ❑ **Be aware that sources are still 'suspect'**





Faucets and Showers

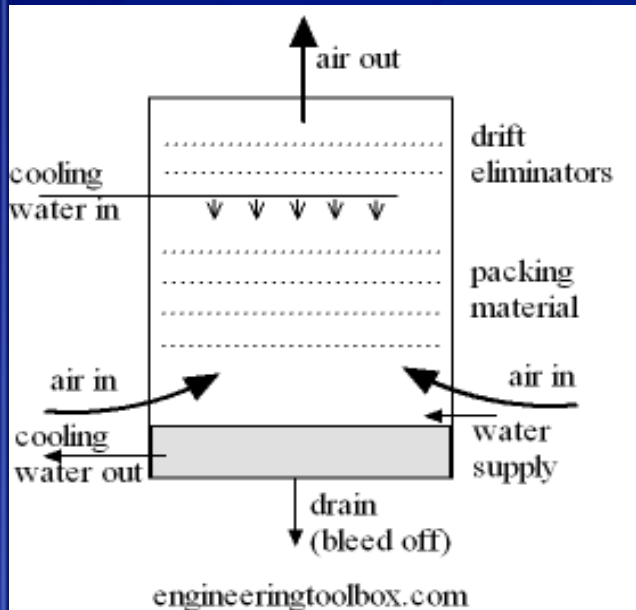
1. Remove aerator or shower head. You may collect sediment or swabs.
2. Let water run until warm but not hot
3. Collect 1L sample; seal and store for transport
4. OPTIONAL: Collect ~200 ml to test water quality (Cl_2 , temp, pH).
5. Insert swab and press firmly – try to get beyond the bend but be careful not to break the swab stem
6. Place swab in 15 ml tube. Break stem so screw cap will fit
7. Add 3-5 ml water from the sample source to prevent tip from drying. Seal and store for transport

Hot Water Heaters



1. HWHs have numerous variations
2. Look for drain valve from which to take 1 L water sample
3. Always check water quality at the HWH
4. Rarely obtain biofilm sample

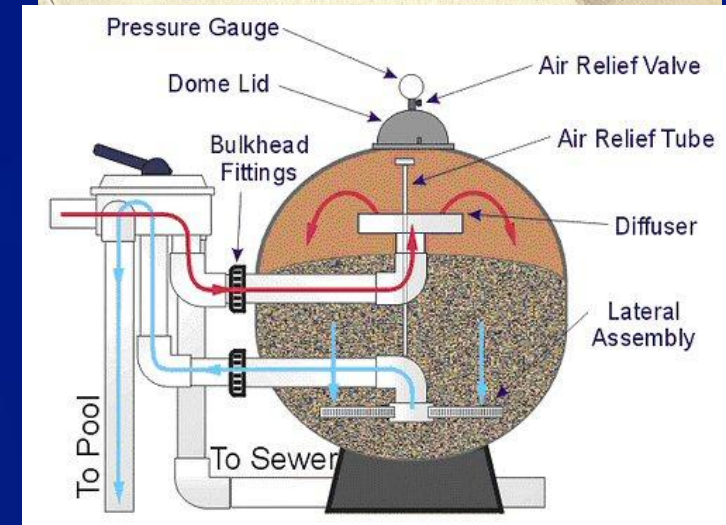
Cooling Towers



1. **Cooling towers come in many shapes and sizes**
2. **Look for an exit/overflow port to take 1 L water sample**
3. **Always check water quality from the cooling tower**
4. **Biofilm samples at water line and other moist surfaces**
5. **Be aware of personal safety!**

Whirlpool Spas and Swimming Pools

- ❑ Whirlpool spas are a frequent source for legionellae
- ❑ Each assembly is different
- ❑ Bulk water from the untreated pool
- ❑ If pool is empty check compensatory tank
- ❑ Biofilm from water line
- ❑ Biofilm from sand filter



Other Considerations

- ❑ Return visits may be required**
- ❑ Time is of the essence**
- ❑ Learn general working of water systems and usage patterns**
- ❑ Keep your eyes open for the unexpected**
- ❑ Preliminary lab results in 3-7 days**
- ❑ Final lab results in 7-21 days**

CDC ELITE Program

<https://wwwn.cdc.gov/elite/Public/MemberList.aspx>

Environmental Legionella Isolation Techniques Evaluation (ELITE) Program

ELITE Overview

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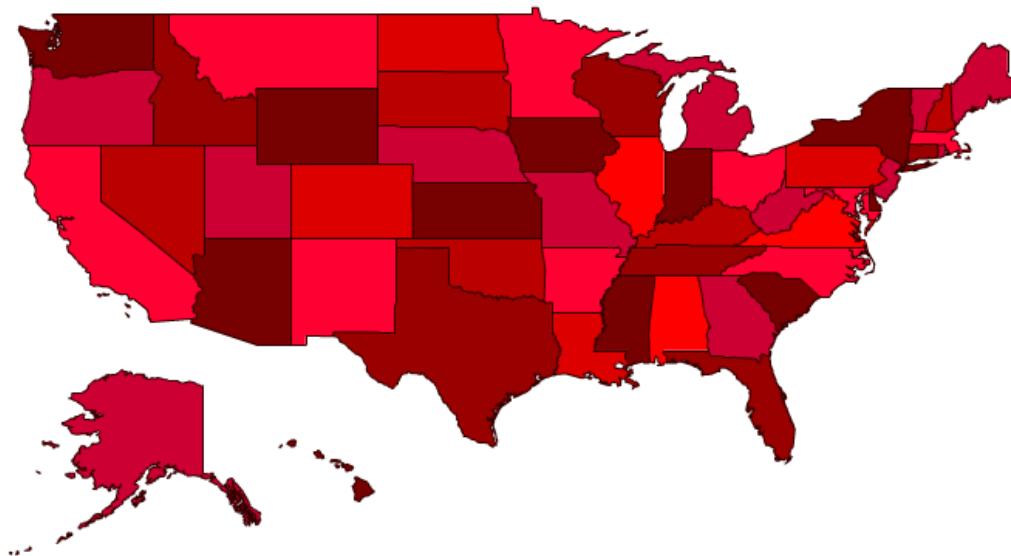
Related Link

[Legionella Homepage](#)

[ELITE Overview](#)

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Other Resources

- ❑ Procedures for the recovery of *Legionella* from the environment
<http://www.cdc.gov/legionella/files/legionellaprocedures-508.pdf>
- ❑ Procedures for collecting and processing environmental specimens for *Legionella* spp.
<http://www.cdc.gov/legionella/procedures.htm>

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